

SINCE 1981

BRIGHT LED ELECTRONICS CORP.

LED LAMPS SPECIFICATION

TOTAL PAGE: 5

PAGE: 1

REVISION: 1.0

●COMMODITY : 3.6x6.3x6.8mm 1.0” Lead Rectangular

● DEVICE NUMBER : BL-R213P

| SHEET DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | CONTENTS |
|---------------|-----|-----|-----|-----|-----|---|---|--|--|--|--|------------------|
| 2002.07.16 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | | | | | Initial Released |
| | | | | | | | | | | | | |
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| APPROVED | DRAWN |
|-----------------------|-----------------------|
| 郭偉斌 2002.07.18 | 余芳芳 2002.07.18 |

BRIGHT LED ELECTRONICS CORP.

LED LAMPS SPECIFICATION

●COMMODITY : 3.6*6.3*6.8mm 1.0" Lead Rectangular

●DEVICE NUMBER : BL-R213P

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●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25°C)

VERSION : 1.0

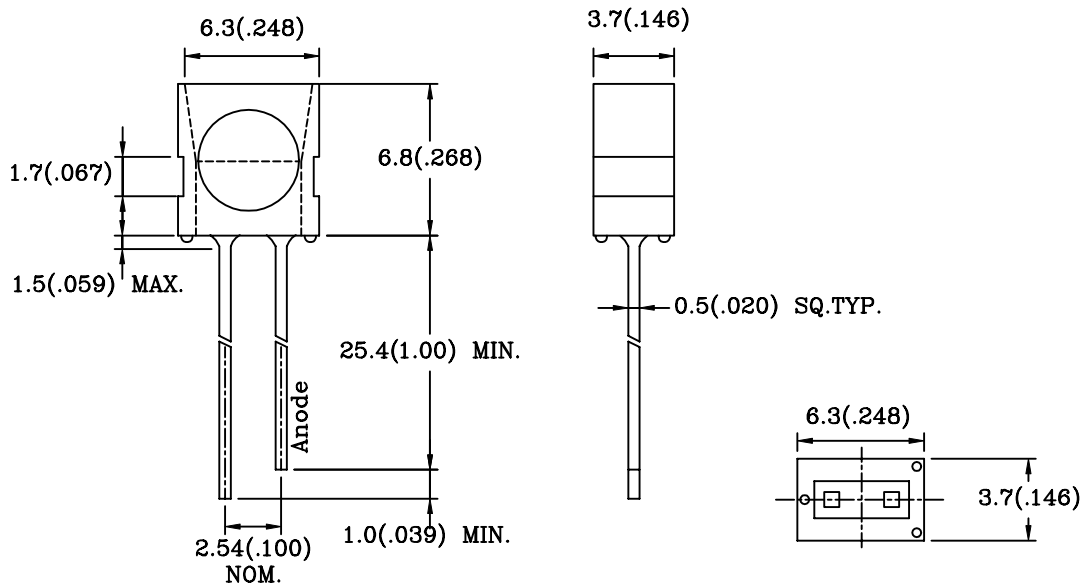
| Chip | | Lens Appearance | Absolute Maximum Rating | | | | Electro-optical Data (At 20mA) | | | Viewing Angle 2θ 1/2 (deg) |
|---------------|-----------------------------|--------------------|-------------------------|------------|------------|-----------------|--------------------------------|------|------------------|----------------------------------|
| Emitted Color | Peak Wave Length λ P(nm) | | Δ λ (nm) | Pd (mW) | If (mA) | Peak If (mA) | Vf(V) | | Iv Typ. (mcd) | |
| | | | | | | | Typ. | Max. | | |
| Green | 568 | Green Diffused | 30 | 80 | 30 | 150 | 2.2 | 2.6 | 8.0 | 120 |

Remark : Viewing angle is the Off-axis angle at which the luminous intensity is half the axial luminous intensity.

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| | |
|-----------------------------------|---------------------|
| Reverse Voltage | 5V |
| Reverse Current (-Vr=5V) | 100μA |
| Operating Temperature Range | -40°C ~ 80°C |
| Storage Temperature Range | -40°C ~ 85°C |
| Lead Soldering Temperature | 260°C For 5 Seconds |

●PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters (inches).

2.Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise specified.

3.Lead spacing is measured where the leads emerge from the package.

4.Specifications are subject to change without notice.

BRIGHT LED ELECTRONICS CORP.

LED LAMPS SPECIFICATION

● COMMODITY: 3.6x6.3x6.8mm 1.0" Lead Rectangular

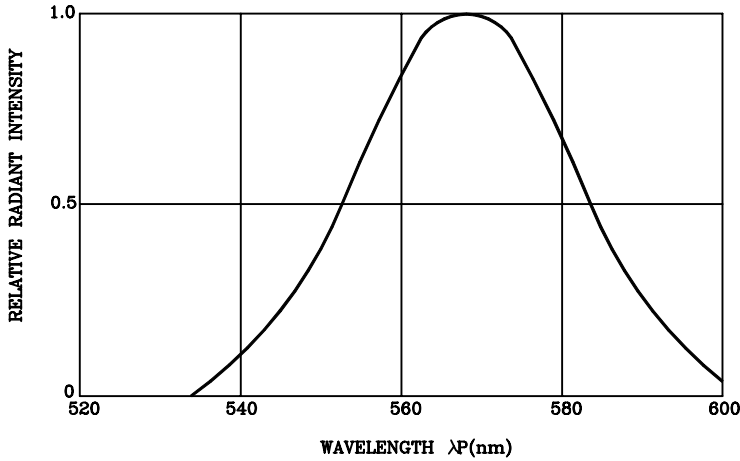
● DEVICE NUMBER: BL-R213P

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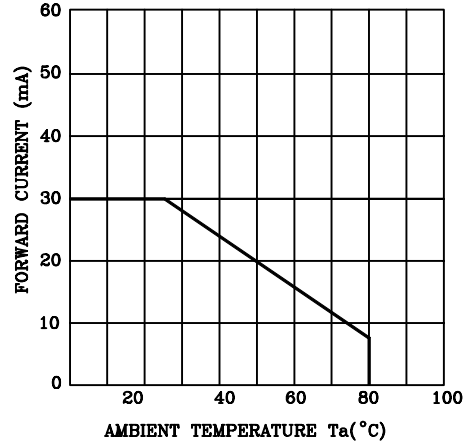
● ELECTRICAL AND OPTICAL CHARACTERISTICS(Ta=25°C)

REVISION: 1.0

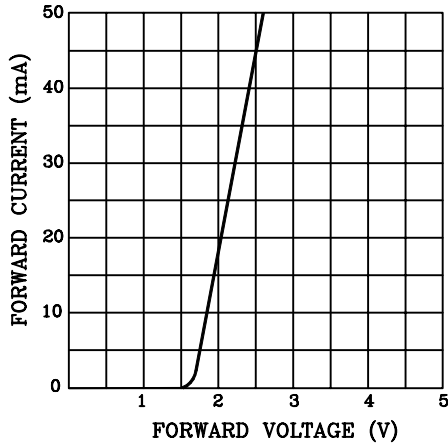
SPECTRAL DISTRIBUTION



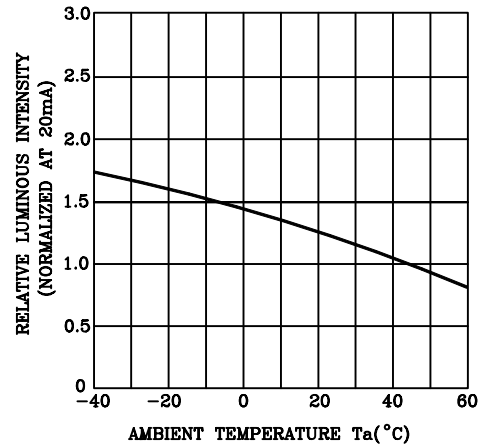
FORWARD CURRENT DERATING CURVE



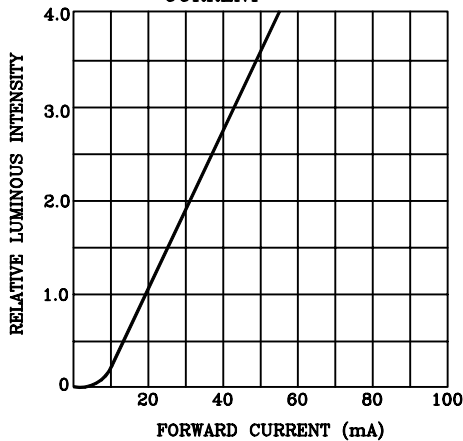
FORWARD CURRENT VS. FORWARD VOLTAGE



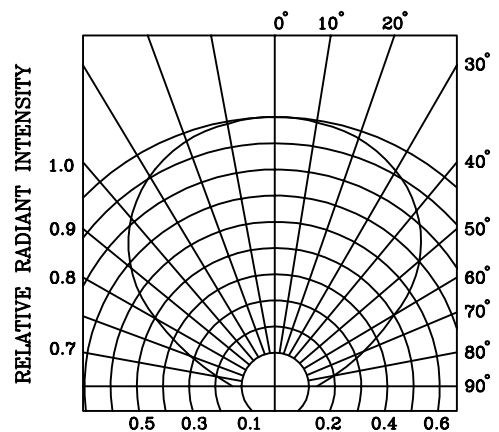
RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



BRIGHT LED ELECTRONICS CORP.

LED LAMPS SPECIFICATION

RELIABILITY TEST

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| Classification | Test Item | Reference Standard | Test Conditions | Result |
|--------------------|--|---|--|--------|
| Endurance Test | Operation Life | MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 :B-1 | Connect with a power $I_f=20\text{mA}$ T_a =Under room temperature Test time=1,000hrs | 0/100 |
| | High Temperature High Humidity Storage | MIL-STD-202:103B JIS C 7021 :B-11 | $T_a=85^\circ\text{C}\pm 5^\circ\text{C}$ RH=90%-95% Test time=240hrs | 0/100 |
| | High Temperature Storage | MIL-STD-883:1008 JIS C 7021 :B-10 | High $T_a=105^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs | 0/100 |
| | Low Temperature Storage | JIS-C-7021 :B-12 | Low $T_a=-55^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs | 0/100 |
| Environmental Test | Temperature Cycling | MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4 | $-55^\circ\text{C} \sim 25^\circ\text{C} \sim 105^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min Test Time=10cycle | 0/100 |
| | Thermal Shock | MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011 | $-55^\circ\text{C}\pm 5^\circ\text{C} \sim 105^\circ\text{C}\pm 5^\circ\text{C}$ 10min 10min Test Time=10cycle | 0/100 |
| | Solder Resistance | MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1 | $T_{\text{sol}}=260\pm 5^\circ\text{C}$ Dwell Time= $5\pm 1\text{sec.}$ | 0/50 |
| | Solder ability | MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021 :A-2 | $T_{\text{sol}}=230\pm 5^\circ\text{C}$ Dwell Time= $5\pm 1\text{sec.}$ | 0/50 |
| | Lead Bending Stress | MIL-STD-750:2036 JIS C 7021 :A-11 | $0^\circ\sim 90^\circ\sim 0^\circ\text{bend}$, 3 cycles Weight 250g | 0/50 |

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

| Measuring items | Symbol | Measuring conditions | Judgement criteria for failure |
|--------------------|--------|----------------------|--------------------------------|
| Forward voltage | V_F | $I_f=20\text{mA}$ | Over $U_x1.2$ |
| Reverse current | I_r | $V_r=5\text{V}$ | Over U_x2 |
| Luminous intensity | I_v | $I_f=20\text{mA}$ | Below $S_x0.5$ |

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

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PACKAGING DIMMENSIONS

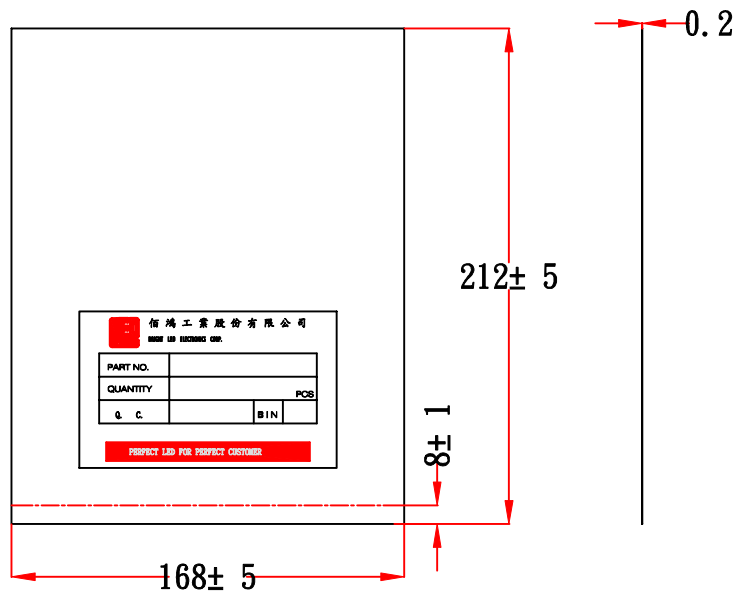
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PACKAGING BOX DIMENSIONS



PACKAGING BAG DIMENSIONS



NOTES:

1. 500PCS PER BAG, 5K PCS PER BOX
2. ALL Dimensions are in millimeters(inches).
3. Specifications are subject to change without notice.